FIG. 1

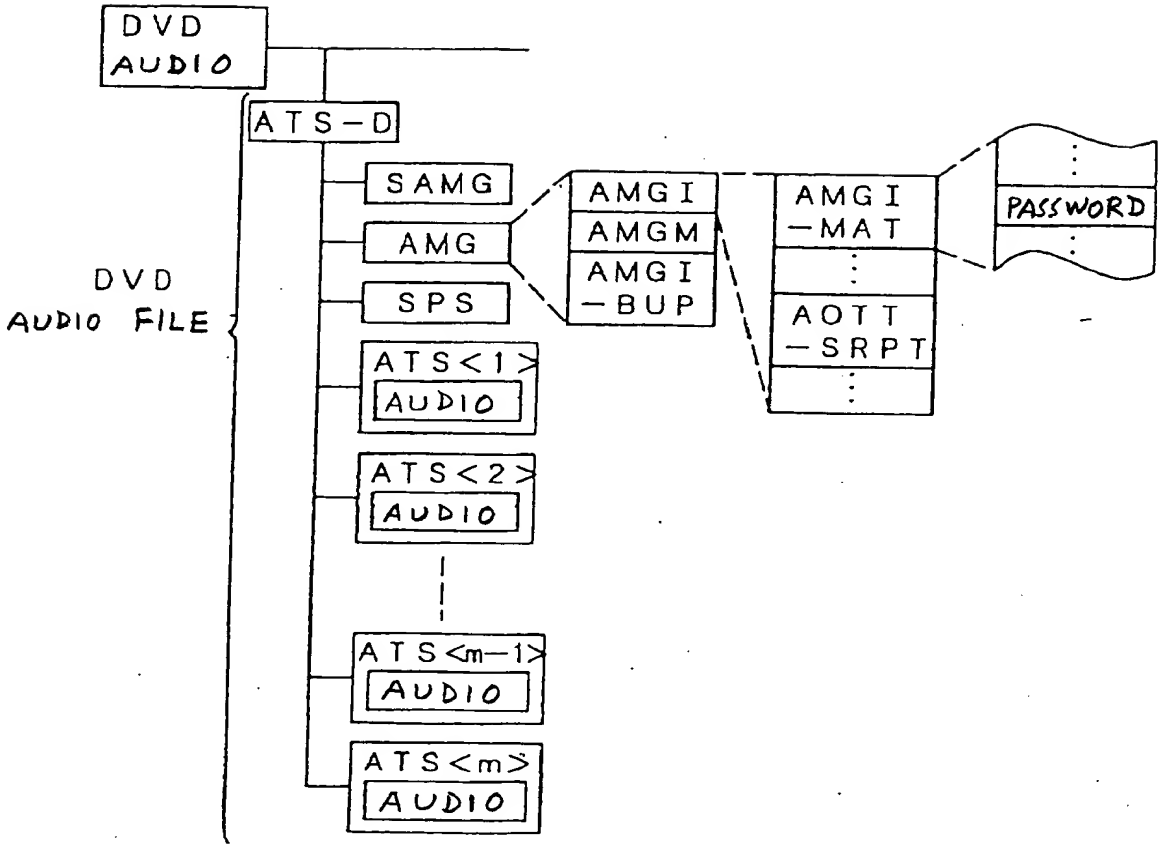

DVD AUDIO
ATS-D
DVD AUDIO FILE
SAMG
AMG
SPS
ATS<1> AUDIO
ATS<2> AUDIO
ATS<m-1> AUDIO
ATS<m> AUDIO
AMGI
AMGM
AMGI -BUP
AMGI -MAT
AOTT -SRPT
PASSWORD

FIG. 2

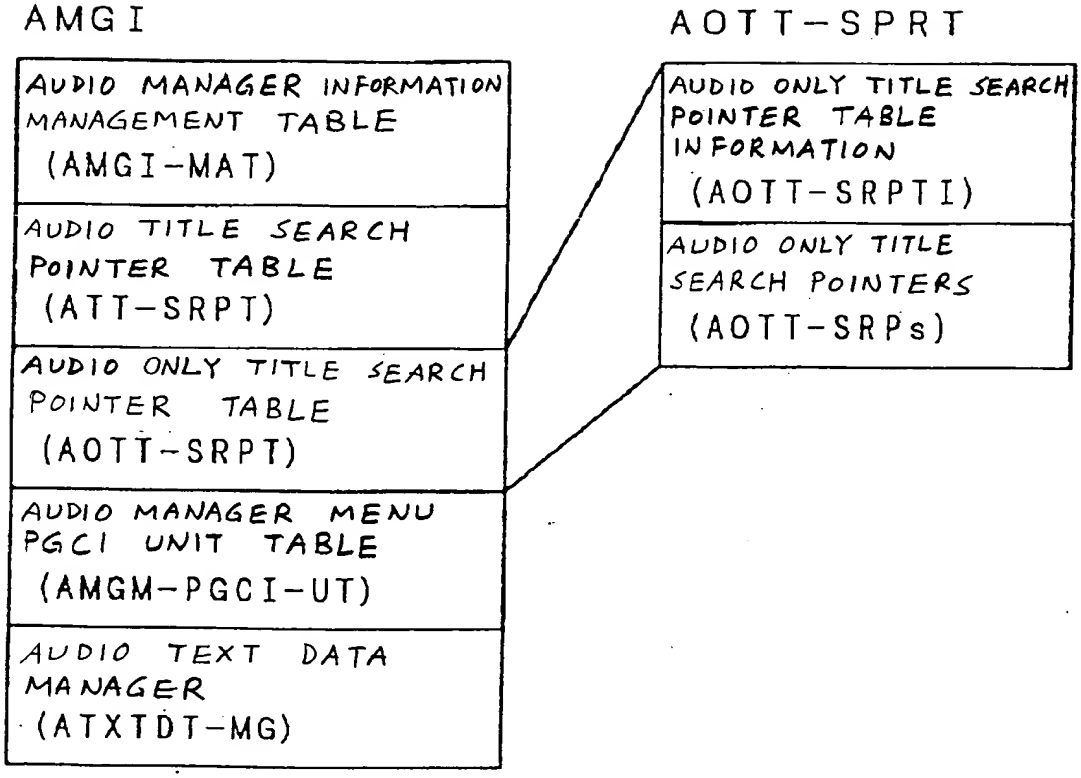


FIG. 3

AOTT—SRPTI (4 BYTES)

AOTT-SRP-Ns	NUMBER OF AUDIO ONLY TITLE SEARCH POINTERS	2 BYTES
AOTT-SRPT-EA	AOTT-SRPT END ADDRESS	2 BYTES

FIG. 4

AOTT—SRP (12 BYTES)

ATT-CAT	AUDIO TITLE CATEGORY	1 BYTE
AOTT-PG-Ns	NUMBER OF PROGRAMS IN AOTT	1 BYTE
AOTT-PB-TM	AOTT TOTAL PLAYBACK TIME	4 BYTES
ATSN	ATS NUMBER	1 BYTE
ATS-TTN	ATS TITLE NUMBER	1 BYTE
ATS-SA	ATS START ADDRESS	4 BYTES

FIG. 5

ATT—CAT (1 BYTE)

b7	b6	b5	b4	b3	b2	b1	b0
PRESENCE/ ABSENCE OF AOTT	RESERVED			AOTT-GRN			

FIG. 6

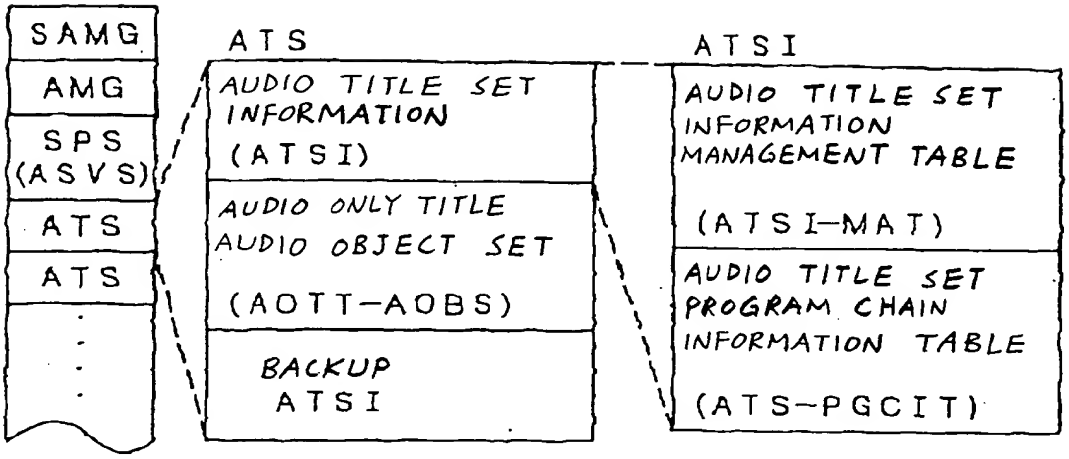

SAMG
AMG
SPS (ASVS)
ATS
ATS
ATS
AUDIO TITLE SET INFORMATION (ATSI)
AUDIO ONLY TITLE AUDIO OBJECT SET (AOTT-AOBS)
BACKUP ATSI
AUDIO TITLE SET INFORMATION MANAGEMENT TABLE (ATSI-MAT)
AUDIO TITLE SET PROGRAM CHAIN INFORMATION TABLE (ATS-PGCIT)

FIG. 7

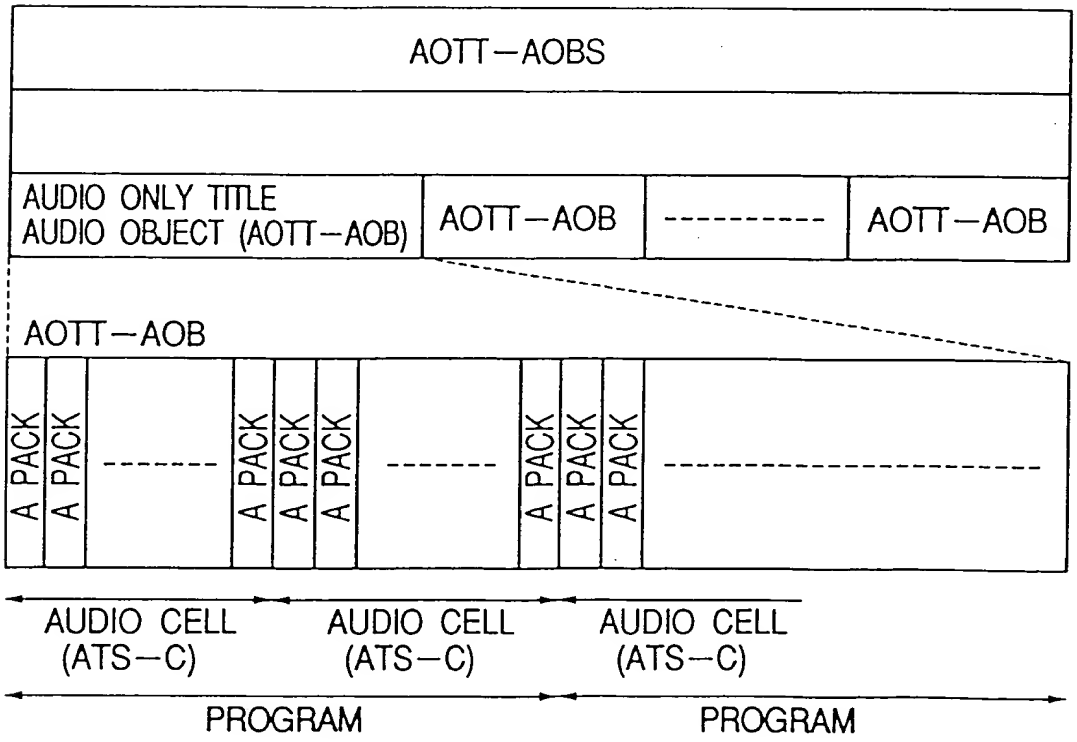

AOTT-AOBS
AUDIO ONLY TITLE AUDIO OBJECT (AOTT-AOB)
AOTT-AOB
AOTT-AOB
AOTT-AOB
A PACK
AUDIO CELL (ATS-C)
AUDIO CELL (ATS-C)
AUDIO CELL (ATS-C)
PROGRAM
PROGRAM

FIG. 8

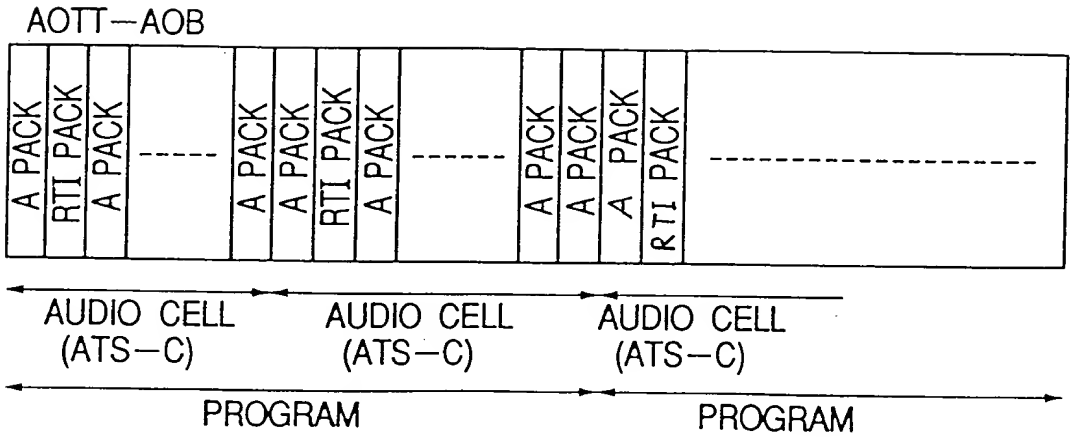

AOTT—AOB
A PACK
RTI PACK
A PACK
A PACK
A PACK
RTI PACK
A PACK
A PACK
A PACK
A PACK
RTI PACK
AUDIO CELL (ATS—C)
AUDIO CELL (ATS—C)
AUDIO CELL (ATS—C)
PROGRAM
PROGRAM

FIG. 9

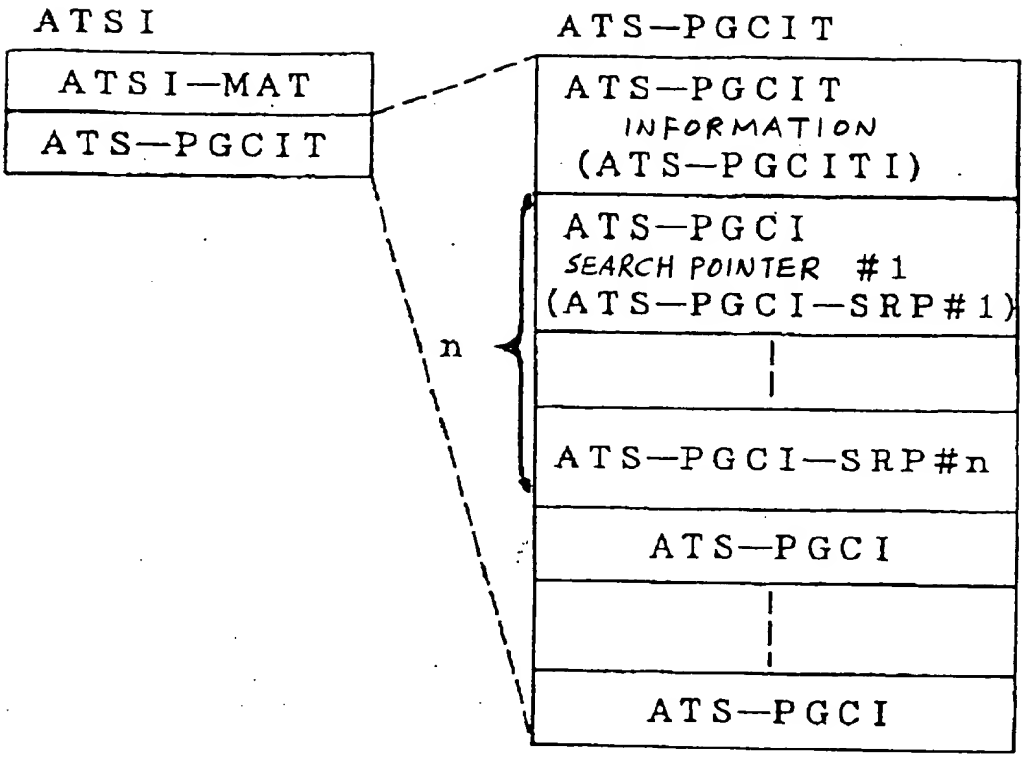

ATSI
ATSI—MAT
ATS—PGCIT
ATS—PGCIT
ATS—PGCIT INFORMATION (ATS—PGCITI)
ATS—PGCI SEARCH POINTER #1 (ATS—PGCI—SRP#1)
n
ATS—PGCI—SRP#n
ATS—PGCI
ATS—PGCI

FIG. 10

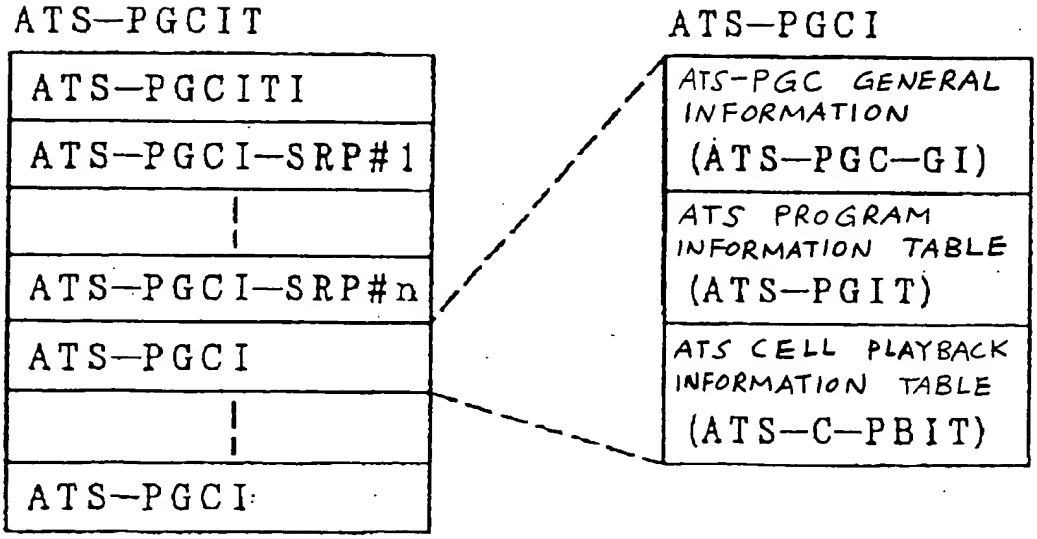

ATS—PGCIT
ATS—PGCITI
ATS—PGCI—SRP#1
ATS—PGCI—SRP#n
ATS—PGCI
ATS—PGCI
ATS—PGCI
ATS-PGC GENERAL INFORMATION (ATS—PGC—GI)
ATS PROGRAM INFORMATION TABLE (ATS—PGIT)
ATS CELL PLAYBACK INFORMATION TABLE (ATS—C—PBIT)

FIG. 11

ATS—PGC—GI

RBP		BYTE NUMBER
0~3	ATS—PGC CONTENTS (ATS—PGC—CNT)	4
4~7	ATS—PGC PLAYBACK TIME (ATS—PGC—PB—TM)	4
8~9	RESERVED	2
10~11	ATS—PGIT START ADDRESS	2
12~13	ATS—C—PBIT START ADDRESS	2
14~15	RESERVED	2

FIG. 12

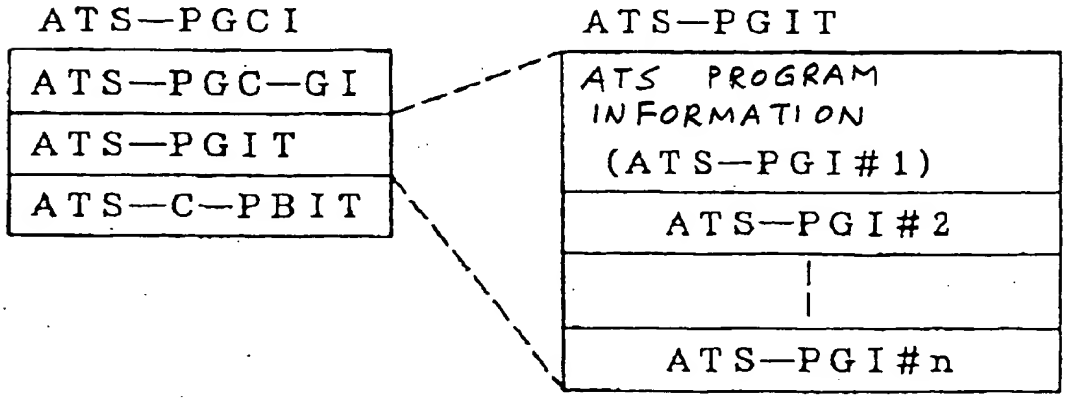


FIG. 13

ATS—PGI

RBP		BYTE NUMBER
0~3	ATS—PG CONTENTS (ATS—PG—CNT)	4
4	ATS—PG ENTRY CELL NUMBER	1
5	RESERVED	1
6~9	FAC—S—PTM	4
10~13	ATS—PG PLAYBACK TIME	4
14~17	ATS—PG PAUSE TIME	4
18	RESERVED (COPYRIGHT MANAGEMENT DATA CMI)	1
19	RESERVED	1

FIG. 14

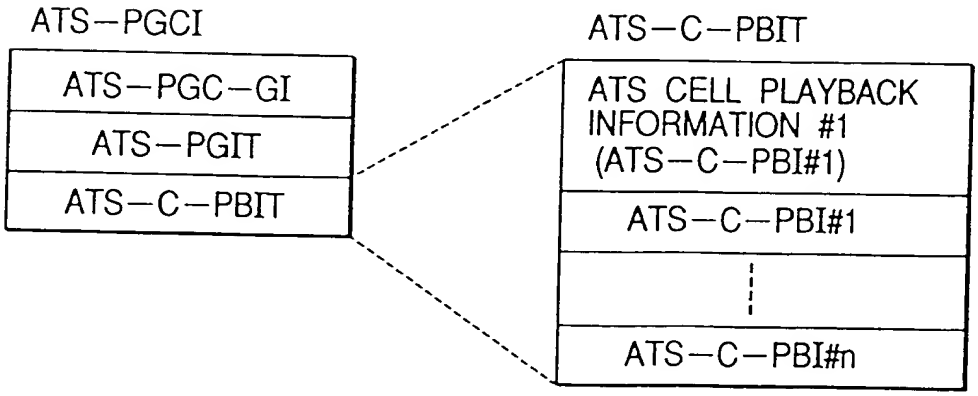


FIG. 15

ATS-C-PBI

RBP		BYTE NUMBER
0	ATS-C INDEX NUMBER	1
1	ATS-C TYPE (ATS-C-TY)	1
2~3	RESERVED	2
4~7	ATS-C START ADDRESS	4
8~11	ATS-C END ADDRESS	4

FIG. 16

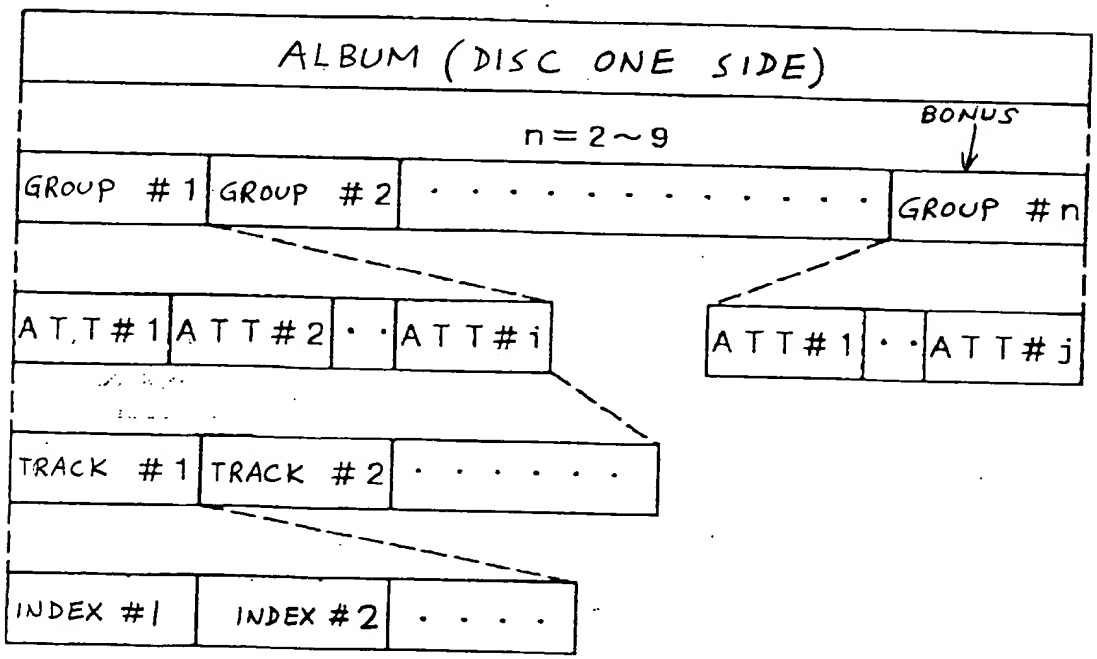


FIG. 17

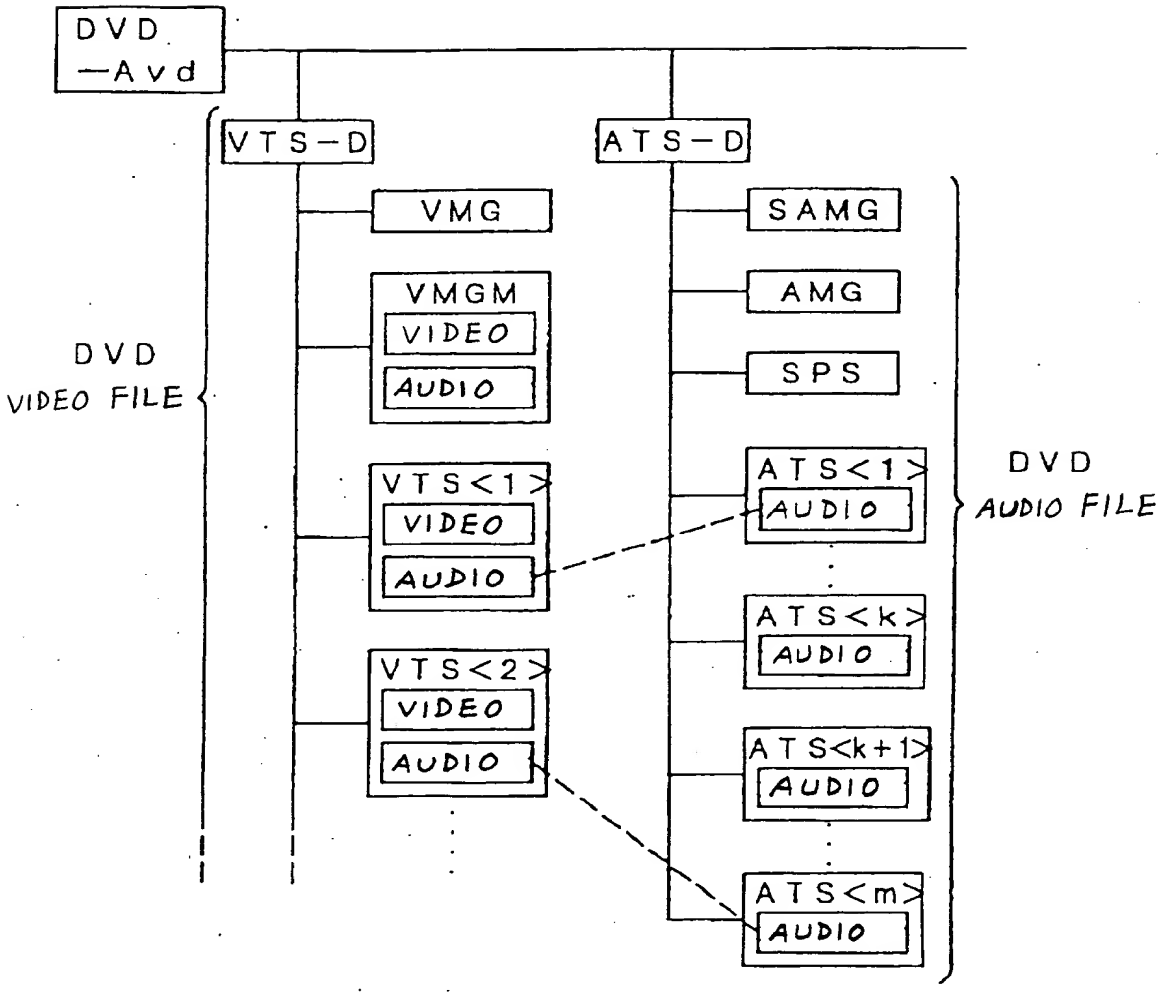

DVD
—Avd
VTS—D
ATS—D
VMG
SAMG
VMGM
VIDEO
AUDIO
AMG
SPS
DVD
VIDEO FILE
VTS<1>
VIDEO
AUDIO
ATS<1>
AUDIO
DVD
AUDIO FILE
ATS<k>
AUDIO
VTS<2>
VIDEO
AUDIO
ATS<k+1>
AUDIO
ATS<m>
AUDIO

FIG. 18

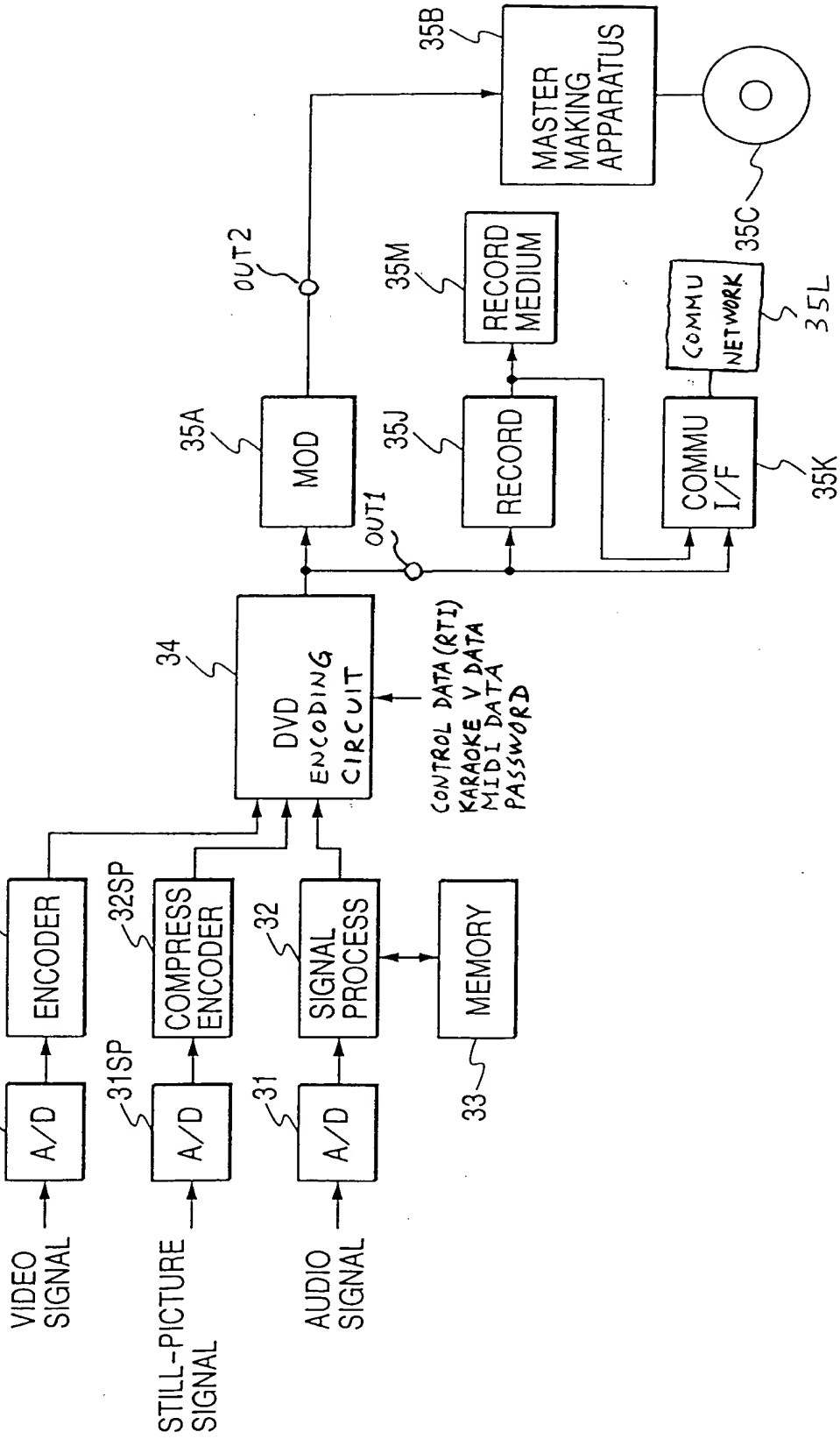

VIDEO SIGNAL
STILL-PICTURE SIGNAL
AUDIO SIGNAL
31V
A/D
31SP
A/D
31
A/D
32V
ENCODER
32SP
COMPRESS ENCODER
32
SIGNAL PROCESS
MEMORY
33
34
DVD ENCODING CIRCUIT
CONTROL DATA (RTI)
KARAOKE V DATA
MIDI DATA
PASSWORD
OUT1
OUT2
35A
MOD
35J
RECORD
35M
RECORD MEDIUM
COMMU I/F
35K
COMMU NETWORK
35L
35C
35B
MASTER MAKING APPARATUS

FIG. 19

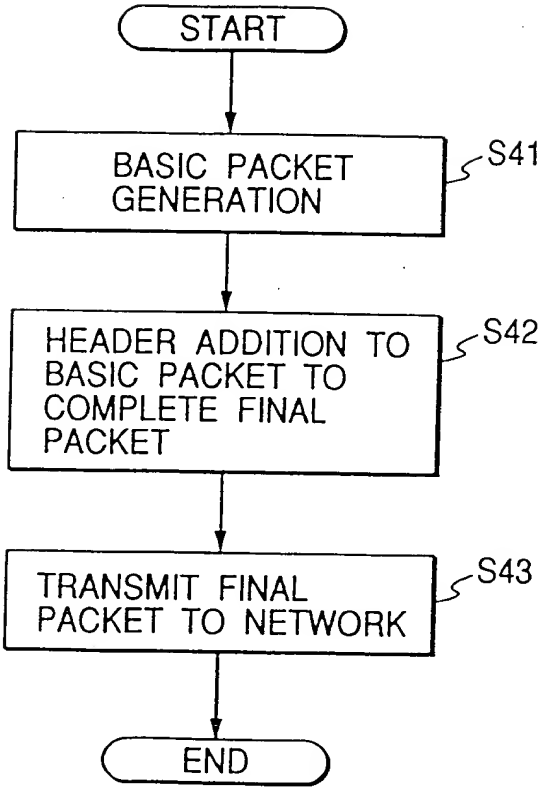

START
BASIC PACKET GENERATION
S41
HEADER ADDITION TO BASIC PACKET TO COMPLETE FINAL PACKET
S42
TRANSMIT FINAL PACKET TO NETWORK
S43
END

FIG. 20

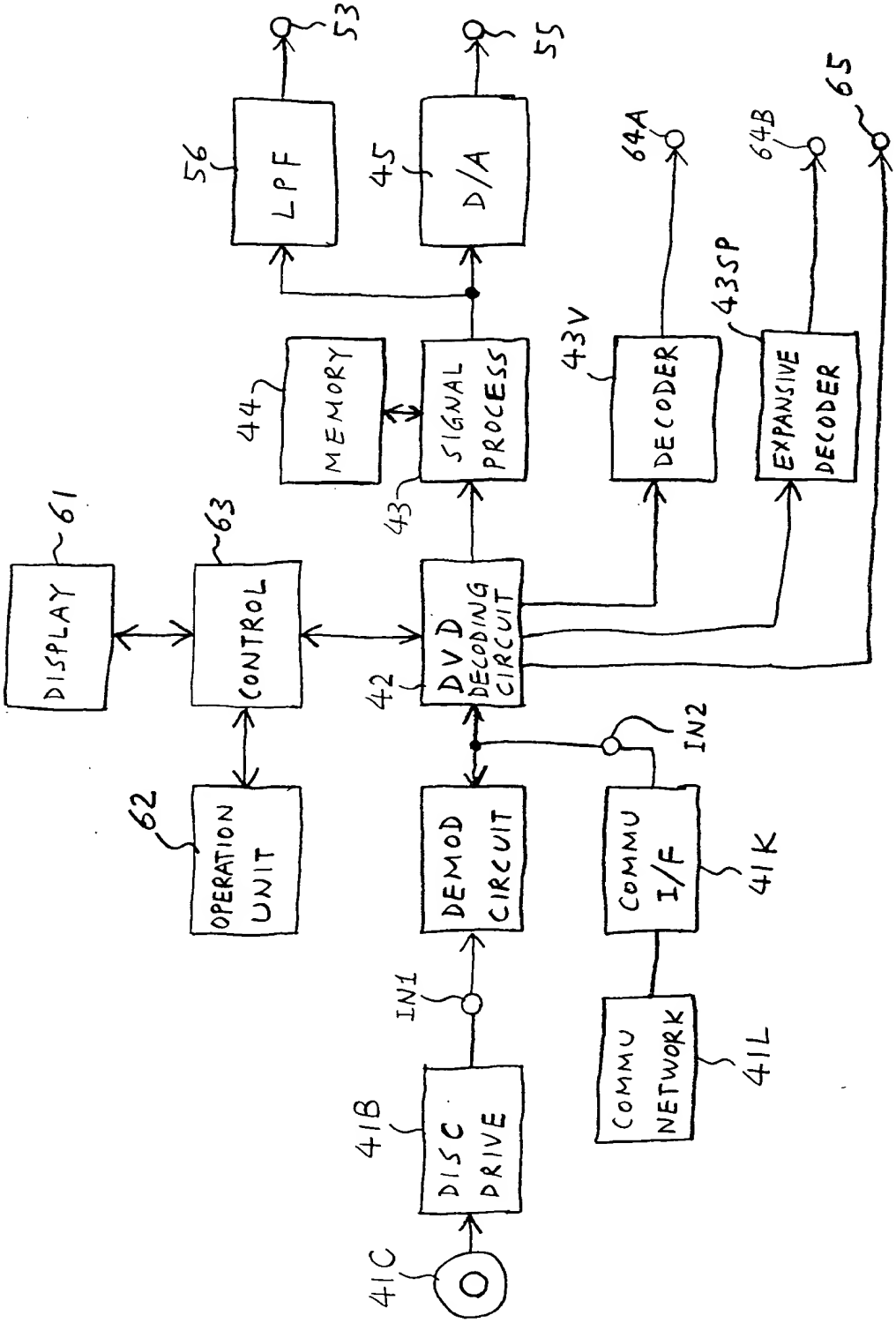

DISPLAY
61
CONTROL
63
OPERATION UNIT
62
DVD DECODING CIRCUIT
42
DEMOD CIRCUIT
IN1
IN2
DISC DRIVE
41B
41C
COMMU I/F
41K
COMMU NETWORK
41L
MEMORY
44
SIGNAL PROCESS
43
LPF
56
53
D/A
45
55
DECODER
43V
EXPANSIVE DECODER
43SP
64A
64B
65

FIG. 21

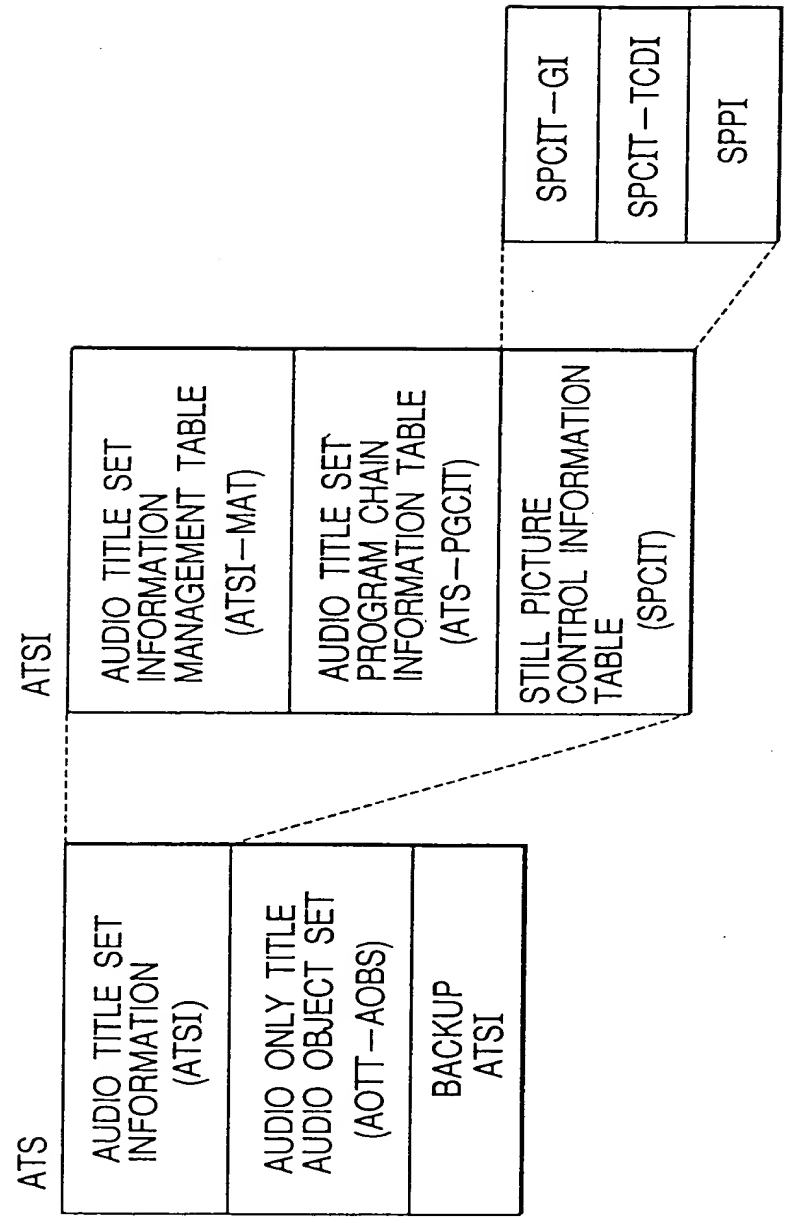

ATS
AUDIO TITLE SET INFORMATION (ATSI)
AUDIO ONLY TITLE AUDIO OBJECT SET (AOTT-AOBS)
BACKUP ATSI
ATSI
AUDIO TITLE SET INFORMATION MANAGEMENT TABLE (ATSI-MAT)
AUDIO TITLE SET PROGRAM CHAIN INFORMATION TABLE (ATS-PGCIT)
STILL PICTURE CONTROL INFORMATION TABLE (SPCIT)
SPCIT-GI
SPCIT-TCDI
SPPI

FIG. 22

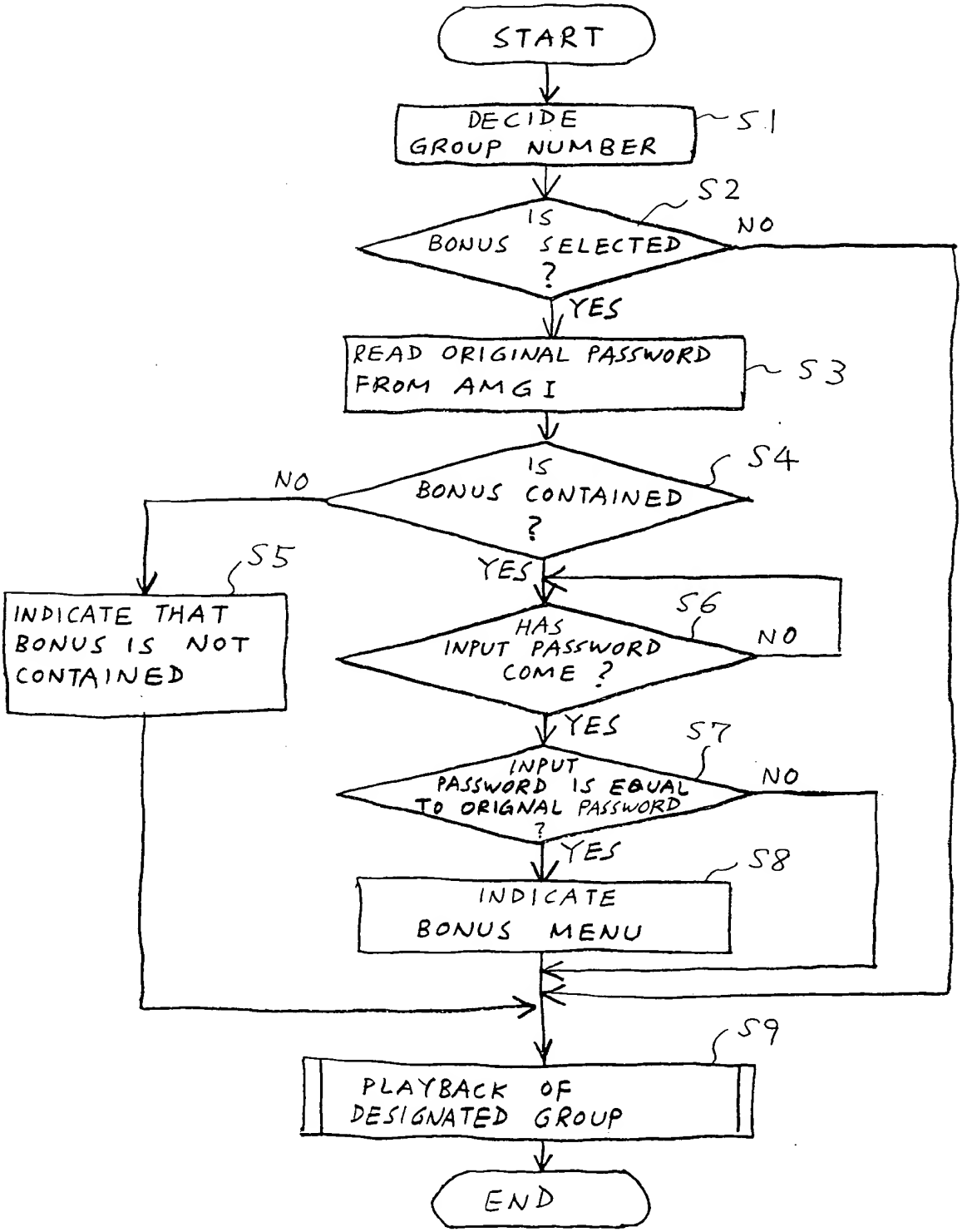

START
DECIDE GROUP NUMBER
S1
IS BONUS SELECTED ?
S2
NO
YES
READ ORIGINAL PASSWORD FROM AMGI
S3
IS BONUS CONTAINED ?
S4
NO
YES
INDICATE THAT BONUS IS NOT CONTAINED
S5
HAS INPUT PASSWORD COME ?
S6
NO
YES
INPUT PASSWORD IS EQUAL TO ORIGNAL PASSWORD ?
S7
NO
YES
INDICATE BONUS MENU
S8
PLAYBACK OF DESIGNATED GROUP
S9
END

FIG. 23

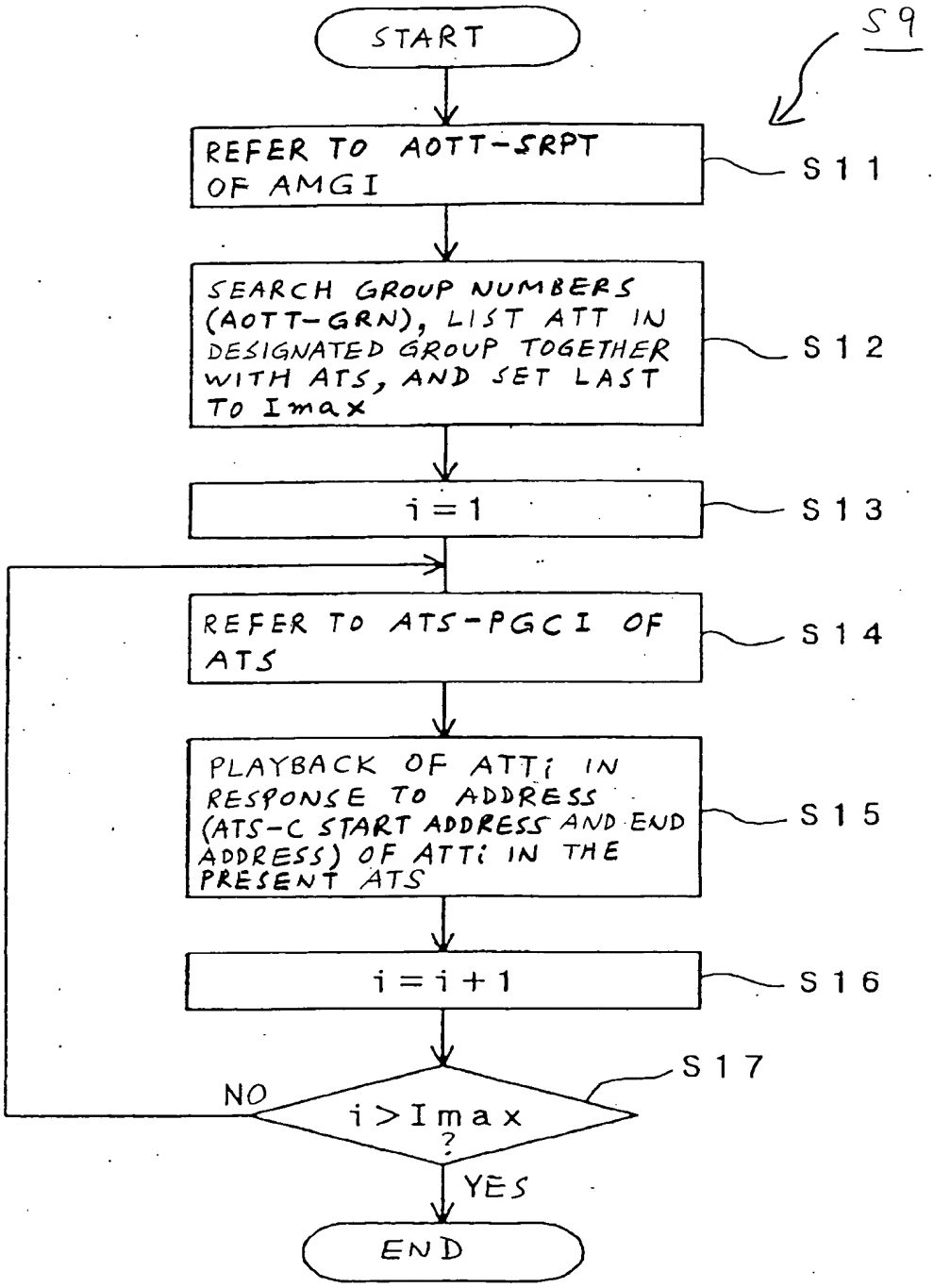

START
S9
REFER TO AOTT-SRPT OF AMGI
S11
SEARCH GROUP NUMBERS (AOTT-GRN), LIST ATT IN DESIGNATED GROUP TOGETHER WITH ATS, AND SET LAST TO Imax
S12
i=1
S13
REFER TO ATS-PGCI OF ATS
S14
PLAYBACK OF ATTi IN RESPONSE TO ADDRESS (ATS-C START ADDRESS AND END ADDRESS) OF ATTi IN THE PRESENT ATS
S15
i=i+1
S16
S17
NO
i>Imax ?
YES
END

FIG. 24

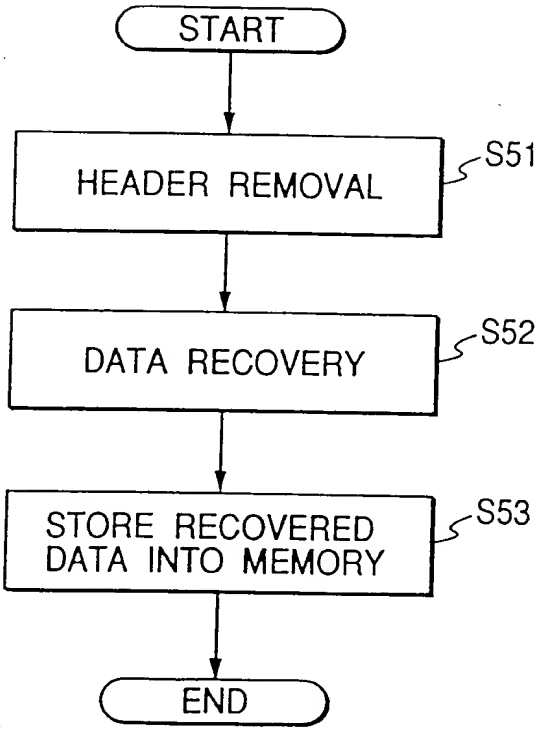
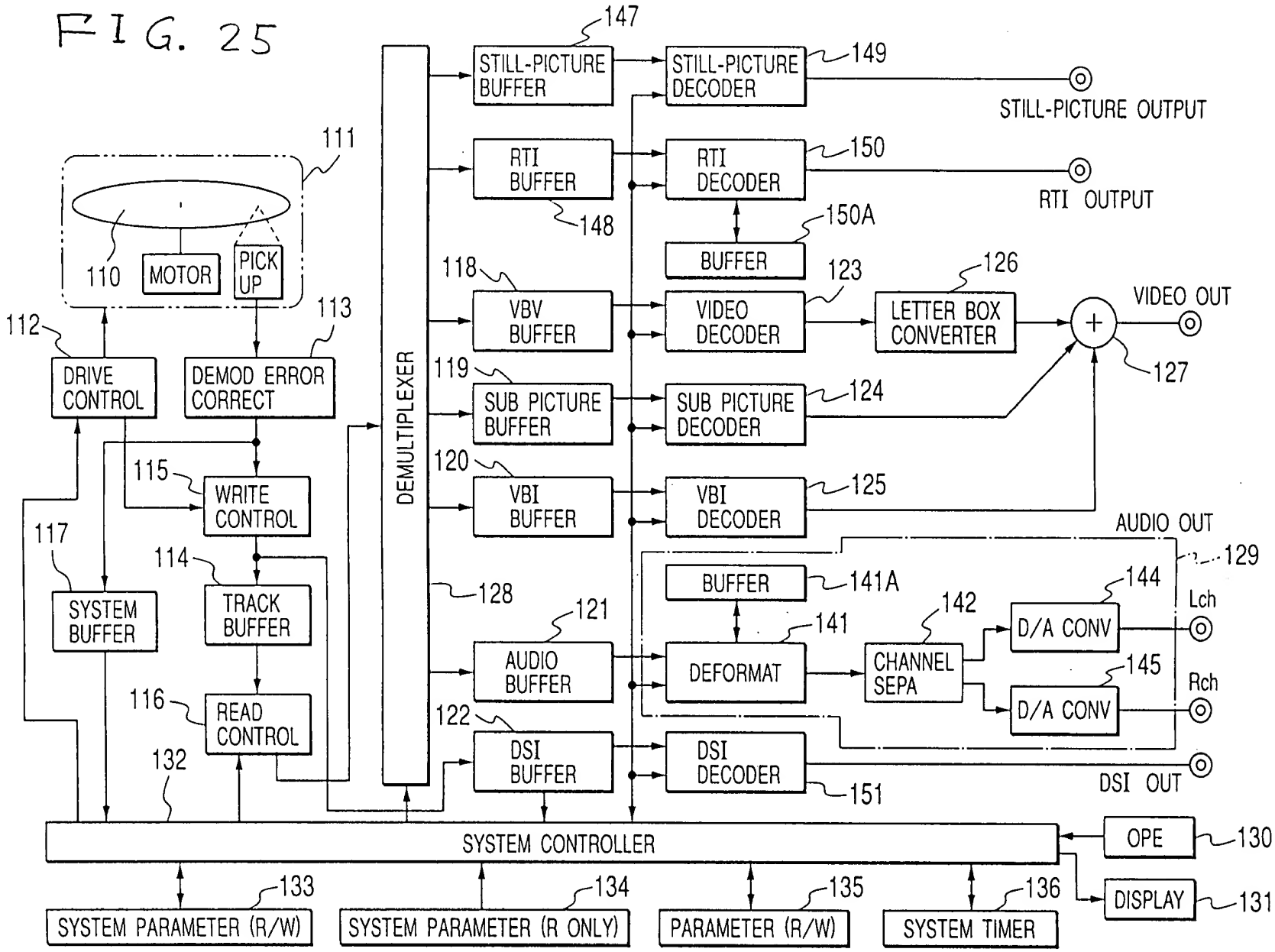

START
HEADER REMOVAL
S51
DATA RECOVERY
S52
STORE RECOVERED DATA INTO MEMORY
S53
END

FIG. 25


147
STILL-PICTURE BUFFER
STILL-PICTURE DECODER
149
STILL-PICTURE OUTPUT
111
RTI BUFFER
RTI DECODER
150
RTI OUTPUT
148
150A
BUFFER
110
MOTOR
PICK UP
118
VBV BUFFER
VIDEO DECODER
123
126
LETTER BOX CONVERTER
VIDEO OUT
112
113
DRIVE CONTROL
DEMOD ERROR CORRECT
DEMULTIPLEXER
119
SUB PICTURE BUFFER
SUB PICTURE DECODER
124
127
115
120
WRITE CONTROL
VBI BUFFER
VBI DECODER
125
AUDIO OUT
129
117
114
BUFFER
141A
144
Lch
SYSTEM BUFFER
TRACK BUFFER
128
121
142
141
AUDIO BUFFER
DEFORMAT
CHANNEL SEPA
D/A CONV
145
Rch
116
READ CONTROL
122
DSI BUFFER
DSI DECODER
DSI OUT
132
151
SYSTEM CONTROLLER
OPE
130
DISPLAY
131
133
134
135
136
SYSTEM PARAMETER (R/W)
SYSTEM PARAMETER (R ONLY)
PARAMETER (R/W)
SYSTEM TIMER

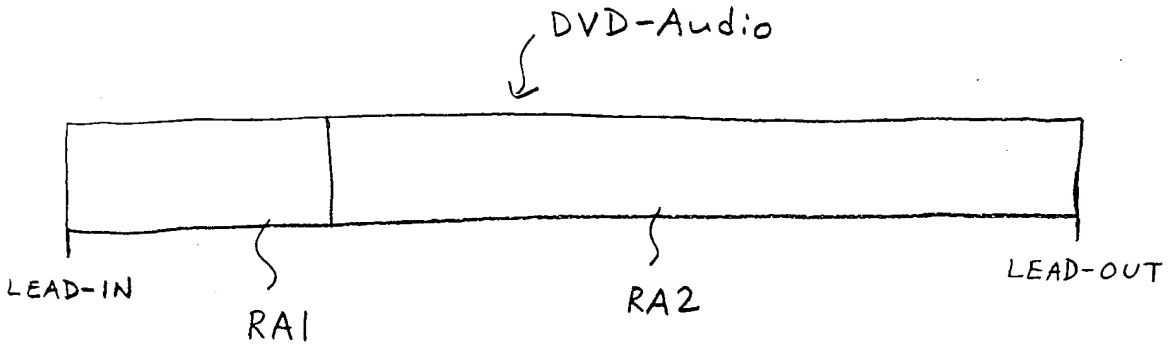



FIG. 26